



**Queensland University of Technology**  
Brisbane Australia

This is the author's version of a work that was submitted/accepted for publication in the following source:

Brereton, Margot, Roe, Paul, & Hong, Anita (2012) Evolving a relationship for cross-cultural participatory innovation. In Tunstall, Elizabeth & Clausen, Mads (Eds.) *2012 Participatory Innovation Conference Digital Proceedings*, Swinburne University, Swinburne Lilydale Conference Centre, Melbourne, VIC, pp. 1-5.

This file was downloaded from: <http://eprints.qut.edu.au/48143/>

**© Copyright 2012 The Authors**

Copyright and all rights therein are maintained by the authors or by other copyright holders. It is understood that all persons copying this information will adhere to the terms and constraints invoked by each author's copyright. These works may not be reposted without the explicit permission of the copyright holder.

**Notice:** *Changes introduced as a result of publishing processes such as copy-editing and formatting may not be reflected in this document. For a definitive version of this work, please refer to the published source:*

# EVOLVING A RELATIONSHIP FOR CROSS-CULTURAL PARTICIPATORY INNOVATION

MARGOT BRERETON, PAUL ROE  
ELECTRICAL ENGINEERING AND COMPUTER  
SCIENCE  
QUEENSLAND UNIVERSITY OF TECHNOLOGY  
M.BRERETON@QUT.EDU.AU  
P.ROE@QUT.EDU.AU

ANITA LEE HONG  
OODGEROO UNIT  
QUEENSLAND UNIVERSITY OF TECHNOLOGY  
ANITA.LEEHONG@QUT.EDU.AU

Participatory design prioritises the agency of those who will be most affected by design outcomes. However in cross-cultural innovation involving indigenous and non-indigenous communities there is much work to do to develop the cross-cultural innovation practices that can best bring together different skills, perspectives and ways of knowing in order to realise the aspirations of indigenous peoples. In this short paper we outline a work-in-progress method based upon relationship development and reciprocity over practical, tangible and culturally appropriate activities. We argue that in a cross-cultural setting the participatory innovation process must be part of a larger relationship building process.

The paper centres around a proposed design project with a remote indigenous community on the Groote Eylandt archipelago. A project proposal has evolved from a relationship built through ecological work between scientists and the local community to study native populations of animal species. We describe the context and history and our proposed approach to engaging indigenous knowledge in design.

## Track 01: INTENT TO DESIGN

Our contribution to the track is to expound the intricacies of a relationship developed through practical, tangible activities, with a view to generalising aspects of participatory method. We seek feedback and to learn strategies for engaging indigenous knowledge in participatory innovation.

The Groote Eylandt Archipelago is a unique and diverse environment, and is the homeland of the Anindilyakwa people. There are 14 clan groups divided into two moieties and they are bound to each other by a strict kinship system. The Anindilyakwa people are the traditional owners of Groote Eylandt and their native language, Anindilyakwa is an isolate, disconnected from other Aboriginal languages. The Aboriginal people in this region endeavour to “combine a traditional lifestyle with the comforts of the 21st century” (ALC report, 2007) building upon the opportunities presented largely by manganese mining and tourism.



Figure 1: Groote rangers measuring a quoll held in a bag by a scientist

The history of Groote Eylandt has seen dramatic changes and injustices in the social and cultural landscape of the island in a relatively short time since the arrival of the Anglican Church Missionary in 1921, and the mining company BHP in 1963 as documented in Brasche (2008). The cumulative effects of long-term disengagement between governments and the three Anindilyakwa communities on Groote Eylandt has led to poor comparative socio-economic outcomes (ALC 2009, Brasche, 2008).

The Anindilyakwa Land Council (ALC) is a progressive council that has initiated approaches across the spectrum to reconnect and re-engage the people of Groote. Fundamental to these initiatives is communication and connection, which has led the ALC to seek new ways of using technology within an Aboriginal context to support communication and connection on Groote.

One of the most significant contemporary challenges is to ensure that young people have the education to take advantage of the economic and employment opportunities being created in the region due to the large manganese mine on the island and tourism development. Moreover, there is a significant orientation towards new technologies with schools adopting notepad computers in the classroom.

Our collaboration with the Anindilyakwa Land Council started through a chance meeting at an environmental conference. The coordinator of the indigenous rangers attended the conference and heard about a project of our science team, which uses acoustics to monitor bird and frog species. He discussed with them the concern regarding possible accidental introduction of cane toads on Groote. It soon became apparent that the project had the potential to provide a cane toad early warning system on the island. Over many months, many visits to Groote, much time spent sitting down with the indigenous rangers drinking black tea, and a presentation to the land council, a prototype system was deployed in two locations. Several more trips ensued each spaced a few months apart. Gradually one of the authors got to know some of the senior men and facilitators, and began to understand some of the many challenges and opportunities for the Groote community.

Discussion turned to new projects. Internal and external communication difficulties were an area where our group felt we could contribute, particularly given the community's interest in new technology. One of the facilitators brought up the idea of some form of visual "digital noticeboard" to display community information including the community newsletter, which after many more discussions and developments of the idea led to a proposal to the land council that was overwhelmingly accepted (July 2011). In particular the vision of the noticeboard is to enable new forms of communication in the remote, Aboriginal Anindilyakwa community where the population has low English and technical literacy

and where visual and video based interfaces offer potential to:

- Publish announcements relating to health, education, environment and culture;
- Enable authorship by the community for community sharing (empower the community);
- Engage aboriginal people in use of contemporary and visual communication techniques;
- Enable external communication of messages that the people of Groote wish to publish to the world relating to their unique culture and heritage.
- Support shared learning on public devices that then transitions to personal devices.

## APPROACH AND CHALLENGES

Robins (2001) has highlighted tensions in the mandate of development work that seeks to both promote the cultural survival of Indigenous peoples *and* to socialise them into becoming virtuous citizens within a global civil society. Brasche (2008) suggests that this is where the conditions of cultural change should be contested, with communities figuring out how to engage with contemporary technologies and reconstitute and reproduce their own cultural ideas and practices without being swallowed up by the homogenising forces of modernity and globalisation' (Robins 2001: 843). This approach then requires communities to adapt and recast their reliance on Western institutions. Brasche (2008).

Brasche (2008) in calling for research on Groote Eylandt notes how economic and external forces of change have led to deculturation with serious consequences on Groote and for the Anindilyakwa producing a breakdown in social capital and kin-relationships and increasing incidences of substance abuse and domestic violence. As Pearson (2007) explains, kin-based relationships are universal in Aboriginal Australia and the traditional culture is one of sharing based on reciprocity, which was necessary in a society and an economy based on harvesting sometimes scarce and unreliable natural resources. However passive government welfare, money without the obligation of work, has undermined the kin relationship and the obligation between youth and their elders.

In relation to the prospect of engaging with Western institutions, Smith (1999) notes that Indigenous research is advanced through two distinct pathways, (i) community action projects and local initiatives, and (ii) through spaces gained within institutions with the combination leading to "legitimate innovative, cutting edge approaches which can privilege community based projects. The two pathways are not at odds with each other." However, considerable attention to method, relationship building and communication is required to ensure that any project makes sense for, meets the needs of and is owned by local people.

In this project we propose to take an iterative research approach that draws upon participatory and collaborative-design approaches (Scrivener 2005, Greenbaum and Kyng, 1991) and Action Research (Checkland et al) traditions. However, in the Aboriginal and in the context of a remote and discrete community, participatory methods must be considerably extended to ensure successful community engagement.

Participatory design is an ethical and pragmatic stance that commits the designer to engage from the outset with those people affected by a design outcome in order to prioritise their agency and quality of experience. Participatory design explicitly attends to the fact that designs are not neutral but that they create power and agency for particular people, whereas many variants of user-centred design seek participation and information from people constructed as “users” without further consideration of them. Participatory design relies on partnership with participants in which participants bring essential knowledge of their own context and culture while designers bring technical and design facilitation skills creating opportunities for mutual learning and development.

However, much participatory design work is undertaken between people from similar cultures. A concern when working across cultures is that tacit agreement may appear to arise where there is none due to cultural differences and misunderstandings.

Our proposed approach aims to address the problem of cross-cultural communication by spending significant time building cross-cultural relationships and understanding. The relationships already built through successful scientific work with practical outcomes are foundational to further research. Effective technology development depends upon entry into the networks of relations that make that technology possible (Suchman, 2002), (Brereton, 2009). And the complexity of designing for any community necessitates that designers take care to understand their own relationships with the community, types of network relations among people, the diverse motivations of people to participate, the subtle balance of values and benefits involved in collaborative endeavours and the inherent power relations between participants (Brereton and Buur, 2008).

An important aspect of considering the Aboriginal viewpoint in the context of design, can be extending from Kickett’s (1997) views on education as reported; that design “will not deal effectively with Aboriginal realities if it does not incorporate processes which enable Aboriginal participants to come to terms with their own value systems by offering an opportunity to systematically explore options, so that they will be able to place terms and conditions on transactions in order to retain that which is important to their own lives.” So, it is important in cross-cultural design to explore design processes that actively support exploration of

Aboriginal value systems in relation to design proposals. Forms of digital “noticeboard”, whatever form it may take, that do not support these value systems are unlikely to be adopted and used effectively.

Building from this perspective, our approach to cross-cultural collaborative design has three primary layers of consideration:

1. Relationship building with Aboriginal communities
2. Collaborative situated design with hands-on activities and technologies
3. Sustainability – system evolution, training, evaluation, future robustness and long term collaboration

### ***1. Relationship building with Aboriginal communities***

Aboriginal research has a bad name in many Aboriginal communities (Brands and Gooda, 2006). Indigenous people world-wide have often been researched with little thought given to culturally appropriate methods of engagement. Research that takes into account culturally appropriate engagement processes with Aboriginal groups and individuals is essential for valid research outcomes (Bessarab and Ng’andu, 2010). This project proposes to extend the participatory design approach by utilising the ten-step model of engagement proposed by Ranzijn, McConnochie and Nolan (2010:207), that begins with self-reflection on ones own assumptions, understanding the culture and history and establishing cultural supervision through to determining how to obtain feedback on the effectiveness of the engagement. Further the project team will utilise the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) Guidelines for Ethical Research in Indigenous Studies (Koch, 2010) for this project. (AIATSIS 2000, 2009) (Davis 2010). This will involve developing with the Anindilyakwa people: strategies and approaches to manage the use of, and access to, research results; and access to sensitive material which involves gender or ceremonial restrictions. Most importantly the proposed project is a collaborative design project with the people of Groote, rather than a study of them.

A key approach will be the use of “yarning” (Bessarab and Ng’andu, 2010) to facilitate in-depth discussions in a relaxed and open manner providing a source of rich data and thick descriptions on a particular issue. The use of yarning acknowledges the importance of understanding and accepting the extra time that will be needed to develop relationships of mutual trust (Pyett, Waples-Crowe and van der Sterren, 2009).

An Aboriginal Reference Group (ARG) will guide the project and its interactions with the community to ensure the partnership is fair and reciprocal and accountable to the needs of the local community by establishing checkpoints; the ARG will guide the non-Aboriginal Australians in the conduct of their research to ensure research is undertaken in a compatible way

with the local community, customs and cultures. We aim to begin by working within established trusted relationships with the Land Council and Ranger Program where there is existing engagement between the Aboriginal and non-Aboriginal community.

Relationship building so far has been based upon successful practical scientific work, tangible activities with outcomes that take time. The indigenous ranger collaboration has involved many hours of hands on trapping, handling, tagging and measuring quolls, and using animal tracking equipment. (Figure 1) The approach described below extends upon this hands-on approach.

**2. Collaborative Situated Design with Hands-on Activities and Technologies** Two particular concerns are first, how to ensure that the “noticeboard” is useful to the Aboriginal community and second, ensuring that new users of digital technologies understand the implications of putting things into the digital realm.

First, rather than design workshop interventions with paper, storyboards and scenarios that require a lot of envisioning, we will work with content that is being produced (artefacts, photos, flyers, posters, messages, videos, audio recordings), in order to produce a prototype “noticeboard”. Hands-on activities with local materials and technologies such as newsletters, flyers, artifacts, photos, simple prototyping materials, touchscreen devices (possibly social media such as YouTube) and taking cameras on country will be used in collaboration with ‘yarning’ because such tangible activities take time and enable active exploration, learning and making. Communication is also facilitated through many other sharing activities such as drawing, food preparation etc. that relate simply to daily living. By working collaboratively with practical examples and materials we aim to ensure that the form of the noticeboard and the sample early content is interesting and inspiring to local people. Although the initial vision endorsed by the Land Council is of noticeboards and tabletops, it is also important to explore what physical and interactional form the community communication system might take.

Second, discussions prior to action cannot really anticipate the situated nature of content generation and posting. As a result we propose that a significant focus of developing a “noticeboard” takes place in such a way that experimentation can take place over time within the confines of the community and with time to pause for reflection on potential consequences, before a fully web accessible noticeboard is created. Communities need time to experience and discuss the kinds of noticeboard content that they wish to generate and consume, and associated protocols for moderation and access. That is, while AIATSIS guidelines propose free, prior and informed consent, our aim is to take a hands-on and pragmatic approach to actually achieving free, prior and informed by working with examples over time and off-line.

We will begin by devising the core functionality and design through yarning and hands on activities as described above. We will then deploy prototypes in the community over time and use agile software development to support the evolution of the noticeboard software in response to community use and feedback. (Heyer and Brereton 2010)(Hutchinson 2003). This is a practical and tangible approach that relies upon contribution and knowledge of the local community and through which we aim to understand how to devise and support practices of community authoring, viewing and moderation that suit the Aboriginal community. It is important to make sure that research relations are reciprocal as this ensures the sustainability and usefulness of the research to the Aboriginal community and that design accords with Aboriginal Value systems.

### **3. Sustainability**

When designing systems through which people communicate and archive content, it is important to ensure that those communications and content are controllable and accessible in the long term by the community of use, rather than being locked away in proprietary systems that are not maintained and fall into disuse. Sustainability also requires consideration of whether local people are able to maintain and use the system without dependence upon others. Further, it is important to consider interrelations with other platforms and possible access through other platforms.

We propose to address these issues of training, maintenance, ongoing development and sustainability early on in the project through collaborative design, design for maintainability and through considering what training and education is desired by and feasible for the community. We will further investigate how any noticeboard and display systems can be evaluated and sustained through ongoing monitoring and reflection on use of the deployed systems.

The effectiveness of the overall approach will in many respects be measured by the engagement of the community in the project and by the take-up and long-term use of any resulting technologies by the Groote community themselves.

### **ACKNOWLEDGEMENT**

We would like to acknowledge the Anindilyakwa Land Council and people for their contributions to this project.

### **REFERENCES**

- Anindilyakwa Land Council Annual Report 2007-2008 <http://www.anindilyakwa.com.au>
- Anindilyakwa Land Council, New Ownership, New Responsibilities, 2009 - Review of Education in the Groote Eylandt and Bickerton Island Region.

AIATSIS (Australian Institute of Aboriginal and Torres Strait Islander Studies) 2000 *Guidelines for Ethical Research in Indigenous Studies*, AIATSIS, Canberra, [www.aiatsis.gov.au/research/docs/ethics.pdf](http://www.aiatsis.gov.au/research/docs/ethics.pdf) Accessed October 2011.

AIATSIS (Australian Institute of Aboriginal and Torres Strait Islander Studies) 2009 *Guidelines for Ethical Research in Indigenous Studies – Draft for Consultations – Suggested Revisions*, AIATSIS, Canberra, [www.aiatsis.gov.au/research/docs/DraftGERISrevisionsDec2009.doc](http://www.aiatsis.gov.au/research/docs/DraftGERISrevisionsDec2009.doc) Accessed October 2011

Bessarab, D. and Ng'andu, B. (2010). Yarning About Yarning as a Legitimate Method in Indigenous Research. *International Journal of Critical Indigenous Studies*, 2010, Volume 3, Number 1, 2010.

Brands, J. and Gooda, M. (2006). Putting the Users of Research in the Driver's Seat: The Cooperative Research Centre for Aboriginal Health's new approach to research development. *Australian Aboriginal Studies*, 2006, No. 2, pp. 27-35.

Brasche, I 2008, Cultural resilience and social wellbeing: A case for research on Groote Eylandt. *Australian Aboriginal Studies Journal*. Issue 2 Pp93-98

Brereton, M. and Buur, J. 2008 *New Challenges for Design Participation in the Era of Ubiquitous Computing*. *CoDesign* Vol. 4, No. 2. Pp. 101-113. Taylor & Francis UK.

Davis, M., Bringing Ethics up to date? A review of the AIATSIS ethical guidelines. (2010) *Australian Aboriginal Studies Journal*, Issue 2 pp 10-22

Greenbaum, J & Kyng, M. (Eds.) 1991 *Design at work: Cooperative design of computer systems*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Heyer, C. & Brereton, M., 2010 *Design from the Everyday: Continuously evolving, embedded exploratory prototypes*, Proc. DIS *Designing Interactive Systems* pp282-291.

Holcombe, S. (2010) *The arrogance of ethnography: Managing anthropological research knowledge*. *Australian Aboriginal Studies Journal*, Issue 2 pp 22-33

Kickett 1992 address to the National Aboriginal and Torres Strait Islander Higher Education Conference as reported in the National Health and Medical Research Council Report (1997) "A National Training and Employment Strategy for Aboriginal and Torres Strait Islander professionals working in Aboriginal and Torres Strait Islander Health (Rescinded in 2004) .

Oxenham, D. 1999 *Aboriginal terms of reference : the concept at the Centre for Aboriginal Studies*, Curtin Indigenous Research Centre. National Library of Australia.

Pearson, Noel 2007, 'Reciprocity resurrected', Opinion article in *The Australian*, May 12, 2007. Accessed September 2011 at <http://www.theaustralian.news.com.au/story/0,20867,21715025-7583,00.html>

Pyett, P., Waples-Crowe, P. and van der Sterren, A. (2009) Engaging with Aboriginal communities in an urban context: some practical suggestions for public health researchers. *Australian and New Zealand Journal of Public Health*, 2009, Vol 33, No.1. 5pp. 1-54.

Ranzijn, R., McConnochie, K. R. and Nolan, W. (2010). *Psychology and indigenous Australians : foundations of cultural competence*. Palgrave Macmillan, South Yarra, Vic.

Robins, Steven 2001 'NGOs, "Bushmen" and Double Vision: The Khomani San land claim and the cultural politics of "community" and "development" in the Kalahari', *Journal of Southern African Studies* 27(4):833-53.

Smith, Linda Tuhiwai *Decolonizing methodologies: research and indigenous peoples*, London, Zed, 1999.

Suchman, Lucy, 2002 *Located accountabilities in technology production*. *Scandinavian Journal of Information Systems*, Vol. 14, No. 2. pp. 91-106.

Verran, Helen, Michael Christie , Bryce Anbins-King, Trevor van Weeren, Wulumdhuna Yunupingu, "Designing Digital Knowledge Management Tools with Aboriginal Australians" *Digital Creativity*, 2007, Vol 18, No 3, pp129-142.

*COLUMNS ON THE FINAL PAGE SHOULD BE OF EQUAL LENGTH*